REMARKS

The Office Action of April 9, 2004 rejects all of the claims for obviousness on the basis of patent 5,457,552 to Ogurstov et al (hereafter simply "Ogurstov"). In response, the independent claims have been amended to further distinguish the invention from the reference. The Examiner is thanked for including a copy of Ogurstov's Figure 3 in the Office Action, marked to help explain the rationale of the rejections.

Before proceeding further, it should be noted that the purpose of Ogurstov's invention is different from that of the present application. Ogurstov aims to provide a liquid crystal display "which is capable of obtaining a higher picture quality and an increased production yield" (column 2 of the reference, lines 65-67). In contrast, the inventors in the present application seek "to decrease the number of required channels in the source driver IC while providing the desired high resolution" (page 3 of the application, line 19 to page 4, line 1). As the "Background of the Invention" section of the present application explains, with reference to Figure 1 of the application's drawings, the conventional way to control a pixel composed of three sub-pixels is to use three data lines and one scan line. The fact that three data lines are needed for every pixel, in this conventional approach, means that the column driver IC for the LCD panel needs to have many channels if a high-resolution display is to be achieved.

The present application discloses how the number of channels required for the driver IC can be reduced while still providing a display with high resolution. As is shown in Figure 2 of the present application's drawings, the three sub-pixels of a pixel can be controlled using only two data lines and two scan lines. In Ogurstov, however, each pixel has six sub-pixels (two sub-pixels for representing one color), and they are controlled

using two scan lines and six data lines. Furthermore, each of Ogurstov's sub-pixels is coupled to a plurality of transistors, while the embodiments disclosed in the present application need only one transistor per sub-pixel.

As shown in Ogurstov's Figure 3, each pair of sub-pixels (representing one color of a pixel) are controlled by two scan lines through four transistors. Furthermore, the sources of two of these transistors are coupled to one data line and the sources of the other two are coupled to an adjacent data line. The gates of two of the transistors are coupled to one scan line and the gates of the other two are coupled not to the next scan line, but to the scan line after that.

Claim 1 has been amended to recite that a second scan line is "adjacent" a first scan line, and that a third scan line is "adjacent the second scan line." In contrast, the first, second, and third scan lines that are identified in the drawing reproduced in the Office Action are not "adjacent" one another, since they are separated by intervening scan lines in Ogurstov's arrangement. Claim 1 has also been amended to recite that a second sub-pixel is "adjacent" a first sub-pixel and, similarly, that a third sub-pixel is "adjacent the second sub-pixel." In contrast, the first, second and third sub-pixels identified in the drawing that is reproduced in the Office Action are not "adjacent" one another because they are separated by intervening sub-pixels. Similarly, claim 1 now provides that fourth through sixth sub-pixels are adjacent to one another, and such an arrangement is neither disclosed nor suggested by the Ogurstov reference.

Independent claim 3 has also been amended to recite that various features are adjacent one another, so it is respectfully submitted that the invention defined by claim 3

is patentable over the reference for reasons along the lines discussed above with respect to claim 1.

Since the remaining claims depend from the independent claims discussed above and recite additional limitations to further define the invention, they are patentable along with their independent claims and need not be further discussed.

For the foregoing reasons, it is respectfully submitted that this application is now in condition for allowance. Reconsideration of the application is therefore respectfully requested.

Respectfully submitted,

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